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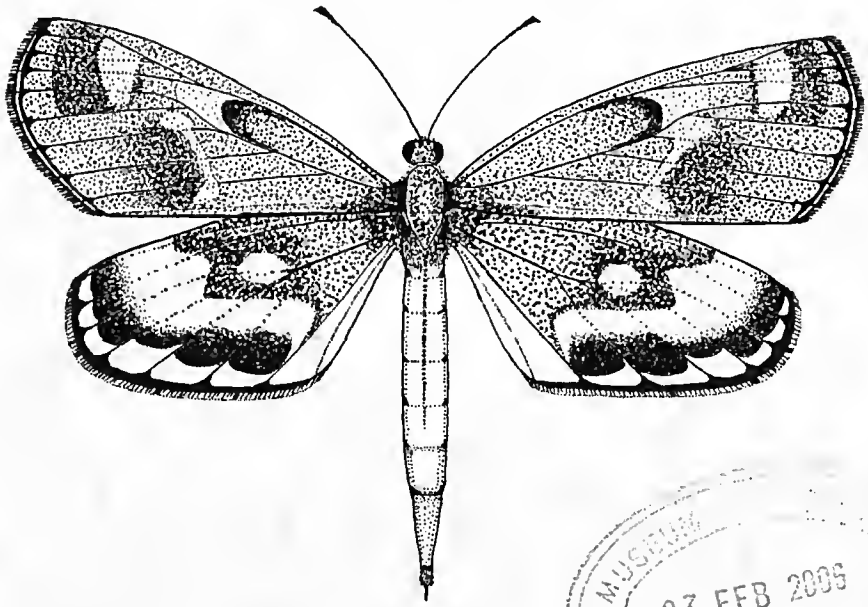

News Bulletin of The Entomological Society of Victoria Inc.

THE ENTOMOLOGICAL SOCIETY OF VICTORIA (Inc)

MEMBERSHIP

Any person with an interest in entomology shall be eligible for Ordinary membership. Members of the Society include professional, amateur and student entomologists, all of whom receive the Society's News Bulletin, the Victorian Entomologist.

OBJECTIVES

The aims of the Society are:

(a) to stimulate the scientific study and discussion of all aspects of entomology,
(b) to gather, disseminate and record knowledge of all identifiable Australian insect species,
(c) to compile a comprehensive list of all Victorian insect species,
(d) to bring together in a congenial but scientific atmosphere all persons interested in entomology.

MEETINGS

The Society's meetings are held at the 'Discovery Centre', Lower Ground Floor, Museum Victoria, Carlton Gardens, Melway reference Map 43 K5 at 8 p.m. on the third Friday of even months, with the exception of the December meeting which is held on the second Friday. Lectures by guest speakers or members are a feature of many meetings at which there is ample opportunity for informal discussion between members with similar interests. Forums are also conducted by members on their own particular interest so that others may participate in discussions.

SUBSCRIPTIONS

Ordinary Member	$20.00 (overseas members $22)
Country Member	$16.00 (Over 100 km from GPO Melbourne)
Student Member	$12.00
Associate Member	$ 5.00 (No News Bulletin)

Associate Members, resident at the same address as, and being immediate relatives of an ordinary Member, do not automatically receive the Society's publications but in all other respects rank as ordinary Members.

LIFE MEMBERS: P. Carwardine, Dr. R. Field, D. Holmes, Dr. T. New, Dr. K. Walker.

Cover design by Alan Hyman.

Cover illustration: The pale Sun Moth. *Synemon selene* Klug, is an endangered species restricted to perennial grassland dominated by *Austrodanthonia* in Western Victoria. It is now extinct in SA, and was presumed extinct in Vic. until its rediscovery, in February 1991, by the late Frank Noelker and Fabian Douglas. The Victorian Populations are parthenogenetic with all specimens comprising females, a most unusual trait in the Castniidae. Illustration by Michael F. Braby.

MINUTES OF THE GENERAL MEETING 9 DECEMBER 2005

Meeting opened at 8.13 pm

Present:	P. Carwardine, D. Dobrosak, K. Dunn, I. Endersby, I. Faithfull, D. Stewart, R. Vagi, K. Walker, G. Weeks.
Visitors:	M. Endersby.
Minutes:	Minutes of the 19 August General Meeting [*Vic. Ent.* 35(5): 81-82] were accepted. M: D. Stewart, S: K. Walker.

General business:

- The Society provides bursaries for the Science Teachers Science Quest. The 2005 winners were Laura Tepe from Donvale Christian College who received a Major Bursary for creative writing, and Sarah Harvey from Girton Grammar School whose Science Photography of Spider's Webs was awarded a Minor Bursary.
- Danny Rogers, Denham Ferreira and Don Franklin were elected to Membership.
- A membership application was received from Ken Gopal.
- Next meeting: Dr. Ross Field will give a presentation on 'The Biology of Some Unique Butterflies from Eastern Victoria'
- Laurie Cookson was thanked for hosting the visit to view his collection last month.

Treasurer's Report:
The Treasurer reported the account balances to be: General Account $6856; Le Souëf Account $4451. Five members were removed from the mailing list as they failed to subscribe in 2005.

Editor's Report:
The Editor advised that a new printer will need to be found as the current arrangement with the existing printer will end at the close of 2006 due to a change of staff.

The editor requested that readers submit further articles for the 2006 issues of *Vic Ent.*

Speakers
Two members made presentations:
Kelvyn Dunn gave a DVD presentation on the butterflies of Sabah, Malaysian Borneo. He reported some 28 species of butterfly encountered during May-June 1999, largely in the Mount Kinabalu-Poring region and near Sandakan, of which 18 had been 'captured' on video. Exploration of the Kinabatangan River involved walking through ankle-deep slippery mud and inundated areas in order to find sunlit clearings where a few species might be nearer ground level. Outboard, motorised canoe landings were impossible at many points within the nature reserve because the impenetrable riparian growth, commencing in the river itself, prevented access. Where 'pig tracks' provided entry in disturbed areas, the adult butterflies were very active, and even slight disturbances of nearby tangled vegetation would scare them from their haunts, preventing many close photographic opportunities. Zoom lens capability enabled larger butterflies, such as Troides, to be filmed at blossoms some 30-40 metres up, but often species identification was not possible.

Mid and late afternoon and early mornings provided better photographic opportunities as the butterflies were then less active, and basked closer to ground level along forest margins.

Although Lycaenidae and Hesperiidae were infrequently encountered, many conspicuous butterfly genera of other families were photographed. These included Troides, Papilio, Eurema, Leptosia, Phrissura, Lexias, Parthenos, Zeuxidia, Junonia, Ypthima, Idea, Parantica, Euploea and Abisara. In addition, an Arctid moth and a 'trilobite' (*Duliticola* sp.), the predacious larva of a tropical Asian genus of lycid beetle were filmed. (The bizarre looking larva may be familiar to many as it is illustrated on the cover of the CD Rom, 'Beetles of the World'). Video images also included mossy swiftlets in caves, a fish owl, and a hornbill perched (and heard calling) from a leafless branch of an emergent jungle tree during late afternoon, and Orangutans, Silver monkeys and Proboscis monkeys were photographed in the Sandakan region where suitable riparian habitat still remains.

From a conservation perspective, attention was drawn to ongoing logging and habitat loss in Borneo generally; some scenes showed recent clearing of roadside vine thickets in the Sandakan district. Kelvyn also mentioned the World Wildlife Fund's recent announcement concerning Indonesia's proposal to create the World's largest oil palm plantation in Kalimantan. Planned to cover 1.8 million hectares (ie. about half the size of the Netherlands), it will result in loss of 'heart of Borneo', old growth rainforest, coincidentally in an area where an undescribed nocturnal carnivore was recently discovered by a photo-camera trap.

Dr. Ken Walker presented an overview of the images and features of the Pests and Diseases Image Library (PaDIL) web site: www.padil.gov.au. Museum Victoria assisted in providing the images for this site.

This site provides multi-layer digital montage images using light microscopy giving incredible detail and depth of field similar to low-power scanning-electron microscopy, but in colour. The aim of the site is to allow users with a microscope to focus on different parts of the viewed organism, simultaneously comparing what they see against a single PaDIL image and hence help to accurately identify the pest species. A unique feature is the web based 'Zoomify' function that allows users to zoom into small areas such as setal arrangements to assist in identifying species. Over 50 species are available for viewing and the site is a valuable tool for non-specialists to identify pest species.

Thanks were extended to both speakers.

Meeting closed at 9.23 pm.

Klinzigiana or *Graphium macleayanum* ? (Lepidoptera: Papilionidae)

R. Grund

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Introduction

Niculescu (1977) proposed splitting the *Graphium weiskei* group from *Graphium* Scopoli (in the sense of Munroe 1961), based on male genitalia. He called the new genus *Klinzigia*, but this name was pre-occupied (Hancock 1983a). He then proposed the replacement name *Klinzigiana* in 1989 (see Appendix below). This name has been rejected by all subsequent authors as a synonym of *Graphium*. In this case the present author believes *Klinzigiana* deserves full generic rank based on the unique attributes of the *weiskei* group.

Discussion

Previous authorities (Munroe 1961, Hancock 1983a, 1985), placed the *weiskei* Group (*Klinzigiana*), with the Old World Leptocircini based on wing venation (forewing veins Sc and R1 anastomosed), and on the male genitalia due to the lack of a fully developed conventional uncus, and the absence of a super-uncus, and allied them to *Graphium codrus* (Cramer) and *G. sarpedon* (Linnaeus).

However, the genus *Klinzigiana* differs from *Graphium* by a combination of adult and biological attribute differences that include long bushy hairs to the frons (although present in *Graphium cloanthus* Westwood), a wing morphology with unique shape and colour pattern, toothed tarsal claws, unique Reflective Eye Pattern (REP) (Figs 1-2), and differences in the male genitalia (Figs 3-6).

The bushy frons is probably an adaptation to montane habitat. The wing shape with hindwing tornal lobes and short-eccentric spatulate hindwing tails (except in *gelon*), is not present in other *Graphium*, and a comparable shape is only present in *Meandrusa sciron* (Leech), that occurs in Southeast Asia and which is not closely related to *Graphium*. The wing pattern colouration is unique, as is the use of purple colour in *weiskei*. The toothed tarsal claws are unique and not found in other *Graphium*, but are present in *Lamproptera* Gray (of Southeast Asia) and *Meandrusa* Moore. The REP is Type I/III (Fig 2) (Grund 1999, Sibatani 1973), in which the eye in living adults is not reflective in its upper half but reflective in its lower half. This REP is unique to this group, and is not found in any other butterfly group. REP Type I (Fig 1) is the usual pattern found in Papilionidae. The male genitalia of *Klinzigiana* (Hancock 1983a, Muller & Tennent 1999, Niculescu 1977, 1989, Okano 1984, Parsons 1999), differ from *Graphium* in possessing saucer like harpes with serrated posterior edges, a unique long spinose posteriorly directed dorsal ampullary process, well developed brachia to the soci-uncus, and a membranous, only slightly hairy, juxta. The ampulla, harpe and juxta of *Klinzigiana* are not unlike those of *Protographium* Munro.

Known early stages of *Klinzigiana* have larvae with the final 10th abdominal segment with a pair of short spines tightly held together to give the appearance of a single spine, differing from other *Graphium* in which these spines are shorter and widely spaced, while the pupae have a reduced thoracic horn; in both cases similar to some *Protographium*. The known preferred hostplants for the *weiskei* group are Lauraceae, Monimiaceae, Rutaceae and Winteraceae, while the preferred hostplants for *Graphium* are generally Annonaceae although the *Graphium sarpedon* group are more

polyphagous and in the Australian Region will utilise Hernandiaceae, Lauraceae, Monimiaceae, Rutaceae, Sapotaceae and Verbenaceae.

The above combination of unique attributes for *Klinzigiana* is strong evidence for the *weiskei* group to be placed in their own genus.

Hancock (1983a) suggested the dispersal centre for *Graphium* (including *Klinzigiana*) was from Southeast Asia, with their common ancestor(s) travelling to Southeast Asia via the Gondwanaland route of South America-Antarctica-Australia.

However, there are questions involving this evolutionary line for *Kliugzigiana* as the latter is restricted to the Australian Region (east of the Weber Line), and to the generally cooler regions of its range, either montane tropical or mild to cool temperate rainforest. If the dispersal centre of *Klinzigiana* was Southeast Asia then one might expect further evidence of the group in montane Indonesia, Malayasia, Taiwan and the Phillipines, or even other montane areas of mainland Southeast Asia, (but of which there are none).

The preference of the group for cooler climes might however imply an alternative endemic Australian origin, having been derived from Gondwanan stock, possibly South American via the conventional Antarctic route along with ancestral butterflies for *Protographium, Ornithoptera* Boisduval, *Cressida* Swainson and *Eleppone* Hancock (Hancock 1983a and Parsons 1996), and probably post continental-split of New Zealand during the period 80-45 mybp (since Papilionidae are absent from New Zealand even though suitable broadleaf angiosperm foodplants have been present for just as long a period as in Australia). The male genitalia of *weiskei* being more ornate (complex) than *macleayanus*, may further imply the dispersal route was from Australia to Papua New Guinea (PNG). There still exist proto-*Graphium* like butterflies in South America with the requisite venation (forewing veins Sc and R1 anastomosed), (*Eurytides* Hubner, *dolicaon* Group) Hancock (1983a), and many species of *Eurytides*, particularly those from the *dolicaon* Group, also possess a bushy frons. Some of the latter also have wing and pattern morphologies vaguely resembling *macleayanus*. (Many of the *Eurytides* species have recently been relocated into *Protographium*).

The zoogeographic history of the insular *gelon* is more problematic. Its presence in New Caledonia could be explained by the nature of the continental drift mechanism, as the opening of the Tasman Sea was initially hinge-like with the fulcrum near Queensland allowing the New Caledonian area to remain close enough to Australia (for a further 10 my after New Zealand broke free), to receive proto-*gelon*. The morphology of *gelon* is melanic and therefore possibly primitive, which might also imply that ancestral *weiskei* group was tail-less (as Erlich 1958, suggests for the Papilionidae), and that the tail in *macleayanus* was acquired later. However, the male genitalia of *gelon* seem to be nearly as ornate as *weiskei*, and the adult transverse blue bar is not unlike Oriental *Graphium*, which could suggest an origin from PNG as indicated by Hancock 1983a,b. Interestingly, *macleayanus* occurs on Norfolk Island, and this island is presently further from Australia than New Caledonia, and at the same time New Caledonia is closer to Australia than to PNG.

The likely-hood is that ancestral *Kliugzigiana* probably formed part of the original proto-*Graphium* dispersal from South America, but did not make it to Southeast Asia, being prevented by its biological dependence on cool habitat.

The dispersal of the Leptocircini would make an interesting DNA project.

Acknowledgments

Thanks to the South Australian Museum for permission to use their photographic equipment and to Jan Forest for help with the equipment, and to Max Day (CSIRO Entomology, Canberra), Kelvyn Dunn and Konrad Fiedler for help with literature.

Appendix

The taxonomy within the Papilionidae is rather confusing compared to other butterfly families, through the use of a large number of subgenera, and recent molecular systematics of the Papilionidae (Sperling (2003), Zakharov et al, (2004)) suggest that these subgenera might be better elevated to full genera status, with a concurrent rearrangement of other classification groupings, notably through the use of Supertribes (a classification also sadly lacking in other Families of butterflies).

Family Papilionidae: Subfamily Papilioninae: Tribe Leptocircini Kirby, 1896

Genus *Klinzigiana* Niculescu, 1989

=*Klinzigia* Niculescu, 1977, nec Lehrer, 1970 (Diptera)

Designated Type-species: *Papilio weiskei* Ribbe, 1900.

Generic Description: Refer Niculescu (1977, 1989) and Okano (1984). For modern generic descriptions of *Graphium* refer Munroe (1961), Hancock (1983a, 1985) and Eliot (1992). Colour illustrations for butterflies can be found in D'abrera (1990), Okano (1984), Parsons (1999) and Muller & Tennant (1999).

Included species:

K. weiskei (Ribbe, 1900) (highlands of mainland Papua New Guinea (PNG) & West Irian)

K. kosii (Muller & Tennant, 1999) (New Ireland) (sometimes included under *K. weiskei*)

K. stresemanni (Rothschild, 1916) (Ceram Island) (sometimes included under *K. weiskei*)

K. batjanensis (Okano, 1984) (Batjan Island of the Molucca Group) (sometimes included under *K. stresemannii*)

K. macleayanus (Leach, 1814) (Great Dividing Range and seaboard of eastern Australia, Tasmania, Lord Howe and Norfolk Islands, highlands of mainland PNG)

K. gelon (Boisduval, 1859) (New Caledonia)

References

D'ABRERA, B. 1990. *Butterflies of the Australian region*. Third Edition. Hill House: Melbourne.

EHRLICH, P.R. 1958. The comparative morphology, phylogeny and higher classification of the butterflies (Lepidoptera: Papilionoidea). *Univ. Kansas Sci. Bull.* 39: 305-370.

ELIOT, J.N. 1992 ed. *The Butterflies of the Malay Peninsula.* 595pp. Malayan Nature Soc, Kuala Lumpur.

GRUND, R. 1999. Reflective eye patterns in Australian adult Satyrinae and some observations on the Genera *Geitoneura* Butler and *Heteronympha* Wallengren (Lepidoptera: Nymphalidae: Satyrinae). *Vict. Ent.* 29(2): 26-32.

HANCOCK, D.L. 1983a. Classification of the Papilionidae (Lepidoptera): a phylogenetic approach. *Smithersia* 2: 1-48.

HANCOCK, D.L. 1983b. *Princeps aegeus* (Donovan) and its allies (Lepidoptera: Papilionidae): Systematics, phylogeny and biogeography. Aust. J. Zool. 31: 771-797.

HANCOCK, D.L. 1985. Notes on the taxonomy and distribution of Indo-Australian Papilionidae (Lepidoptera). *Aust. Ent. Mag.* 12(2): 29-34.

HOLLOWAY, J.D. & PETERS, J.V. 1976. The butterflies of New Caledonia and the Loyalty Islands. *J. nat. Hist.* 10: 273-318.

MUNROE, E. 1961. The classification of the Papilionidae (Lepidoptera). *Can. Ent.* Suppl. 17: 1-51.

MULLER, C.J. & TENNENT, W.J. 1999. A new species of *Graphium* Scopoli (Lepidoptera: Papilionidae) from the Bismarck Archipelago , Papua New Guinea. *Records of the Australian Museum.* 51(2): 161-168.

NICULESCU, E.V. 1977. Un nouveau genre de Graphiini: *Klinzigia* n. gen. *Bull. Soc. Ent. Mulhouse* Oct-Dec: 51-52.

NICULESCU, E.V. 1989. L'armature genitale male des Papilionidae. (Lepidoptera- Aparasternia). II Graphiini. *Bull. Cercle des Lepidopteristes de Belgique.* 18(1-2): 10-27.

OKANO, K. 1984. On the butterflies of "Graphium weiskei"-Group (Papilionidae): with description of a new species. *Tokurana* (Acta Rhopalocero.) 8(1): 1-20.

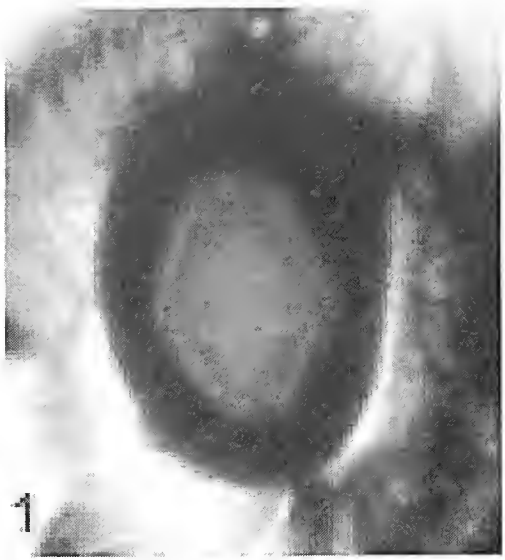
PARSONS, M.J. 1996. A phylogenetic reappraisal of the birdwing genus *Ornithoptera* (Lepidoptera: Papilionidae: Troidini) and a new theory of its evolution in relation to Gondwanan vicariance biogeography. *J. Nat. Hist.* 30: 1707-1736.

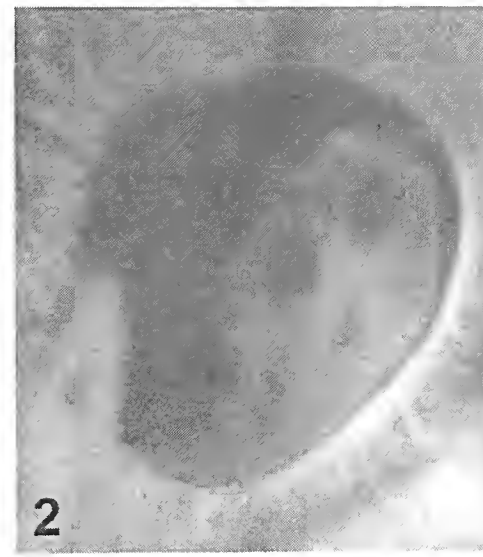
PARSONS, M. 1999. *The Butterflies of Papua New Guinea.* 736pp, 136pl. Academic Press, London-San Diego.

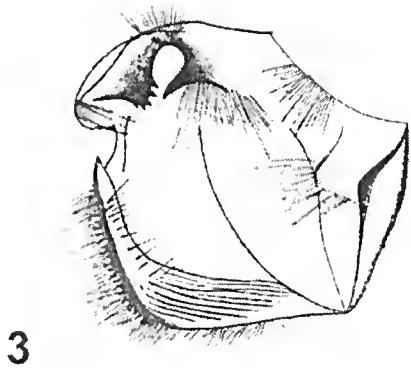
SIBATANI, A. 1973. Taxonomic significance of reflective eye patterns in the compound eye of live butterflies: A synthesis of observations made on species from Japan, Taiwan, Papua New Guinea and Australia. *Journ. Lep. Soc.* 27(3): 161-175.

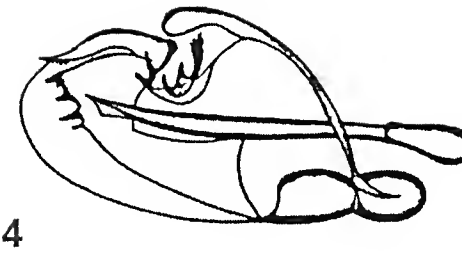
SPERLING, F. 2003. Butterfly molecular systematics: from species definitions to higher-level phylogenies, Chapt 20, pp 431-458 in *Butterflies: Ecology and evolution taking flight,* Boggs, Watt & Ehrlich (Eds) Univ. Chicago Press.

ZAKHAROV, E.V., CATERINO, M.S. & SPERLING, F.A.H. 2004. Molecular phylogeny, historical biogeography, and divergence time estimates for swallowtail butterflies of the genus *Papilio* (Lepidoptera: Papilionidae). *Syst. Biol.* 53(2): 193-215.

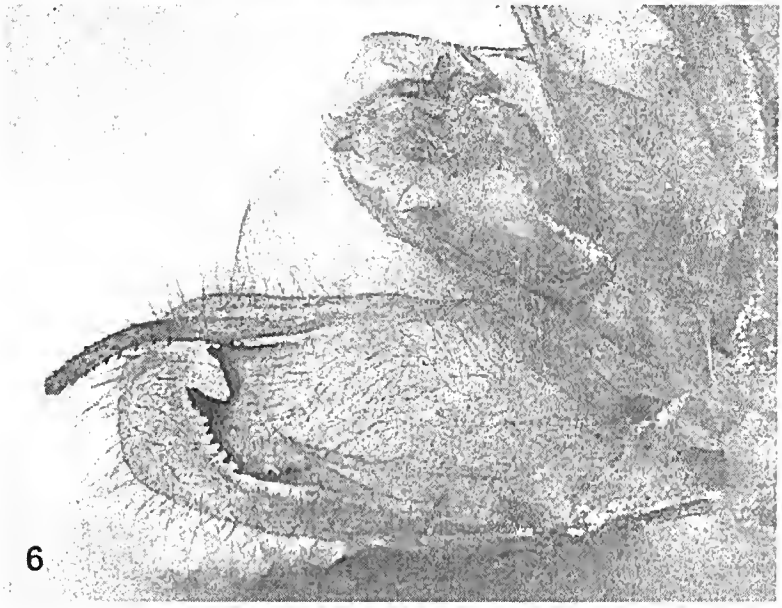








Figs 1-4. Reflective Eye Patterns; (1) Type I *Papilio anactus* W.S. Macleay (Adelaide), (2) Type I/III *K. macleayanus* (Sydney). Male genitalia internal view, both from Niculescu; (3) Valva *G. cloanthus*, (4) Genitalia complete *K. gelon* (New Caledonia).



Figs 5-6. Male genitalia, internal view looking from ventral side, of valva, aedeagus, juxta, brachia and soci-uncus; (5) *K. macleayanus* (Gosford, NSW), (6) *K. weiskei* (PNG).

Records of Butterflies (Lepidoptera) from the Kimberley Region of Western Australia

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Abstract

The distribution and status of many butterflies in north-western Australia is poorly documented. Range extensions and behavioural observations are recorded for thirty one butterfly species from the Kimberley region of Western Australia.

Introduction

The butterfly fauna of northern Western Australia is not as well known as that of southern Western Australia. In recent years much lepidoptera work has been done by Department of Conservation and Land Management (C.A.L.M.) researchers in the south-west, but in northern Western Australia much work on the butterfly fauna remains to be done. Distribution maps in Dunn and Dunn (1991) and Braby (2000) show clearly the paucity of records from this area.

In late March and early April 2003 we conducted a survey for butterflies in the northern Kimberley region. Sites were sampled along the Great Northern Highway between Broome and Kununurra; further collections were made along Gibb River and Mornington Roads on the return trip to Broome. In May 2003, additional butterfly specimens were collected by Sally Black, (C.A.L.M.), at Mitchell Plateau and Prince Regent Nature Reserve. Also included in this paper are records of Kimberley butterflies collected or observed by one of us (GS) between 1999 and 2005. Voucher specimens are housed in the Department of Conservation and Land Management Lepidoptera Research Collection.

Records and observations

HESPERIIDAE

Badamia exclamationis (Fabricius)

The distribution map for *B. exclamationis* in Braby (2000) shows that this species is known from Broome and Kununurra in the Kimberley. It has also been recorded from North-West Cape, 1000 km south-west of Broome (Williams and Tomlinson, 1994), though it has not been able to maintain a permanent population there. Grund and Hunt (2001a) recorded the species for Kalumburu. Our recent collections and observations indicate that *B. exclamationis* is widespread and common across the northern Kimberley. In March and April 2003 butterflies were abundant 2 km north of the Ord Dam (16° 05'S. 128° 45'E.), and along Mornington Road (17° 00'S. 125° 41'E.). Specimens were also taken at Zebedee Spring (15° 59'S. 128° 02' E.), Barnett River Gorge (16° 32'S. 126° 07'E.), and along the Great Northern Highway, 130 km south-east of Derby (17° 54'S. 124° 40'E.). Males and females were commonly found at the flowers of Paperbarks *Melaleuca minutifolia* F.

Muell., often feeding alongside *Pelopidas lyelli* (Rothschild). At Barnett River Gorge they visited flowering *Polycarpaea longiflora* F. Muell.

Taractrocera anisomorpha (Lower)

T. anisomorpha has a wide though disjunct distribution across Queensland and the Northern Territory (Braby 2000), and is also recorded from northern South Australia (Grund and Hunt 2001b; Braby 2004). In Western Australia it is known from Learmonth (Williams *et al.* 1996), the Monte Bello islands (Smithers and Butler 1983) and from the Fortescue River (Waterhouse and Lyell 1914). The species has not previously been recorded from the Kimberley. In 2003 we collected *T. anisomorpha* at three localities: Great Northern Highway, 115 km south-east of Derby (17° 50'S. 124° 32'E.); Junction of Great Northern Highway and Gibb River Road (15° 50'S. 128° 18'E.) and 2 km north of Ord Dam (16° 05'S. 128° 45'E.). At the last two sites butterflies were attracted to flowering Paperbarks *Melaleuca minutifolia*.

Suniana lascivia (Rosenstock)

S. lascivia is known from eastern and northern Australia, where four subspecies are recognised. Butterflies from north-eastern Western Australia are distinct, and may represent a separate subspecies from those in the Northern Territory (Michael Braby, *pers. comm.*)(Braby, 2000). Specimens have been taken at Mitchell Plateau (D.P.A. Sands; I. Naumann), Carson Escarpment (I.F.B. Common) and Wyndham (J. Le Souef) (Braby 2000), and at the Adcock River crossing on Gibb River Road (Grund and Hunt 2001a). We collected a single female at Kununurra (15° 47'S. 128° 43'E.). It was attracted to a flowering ornamental Jasmine shrub in a local caravan park garden.

Telicota colon argeus (Plötz)

T. c. argeus has a somewhat disjunct distribution along the east coast of northern New South Wales and Queensland north to Cape York, and west into tropical parts of the Northern Territory (Braby 2000). In Western Australia the species is known from Millstream on the Fortescue River (Common and Waterhouse 1981). More recently, Grund and Hunt (2001a) reported a skipper from Kalumburu and Mitchell Plateau, which they tentatively attribute to this species. In March 2003 we collected specimens of *T. c. argeus* at Kununurra (15° 47'S. 128° 43'E.) and 2 km north of the Ord Dam (16° 05'S. 128° 45'E.). At Kununurra males and females were attracted to flowering Jasmine shrubs in a caravan park garden. At the site 2 km north of the Ord Dam, females occasionally visited the flowers of *Melaleuca minutifolia* along with *Badamia exclamationis* and *Pelopidas lyelli*. Morphologically, including the structure of the male genitalia, our specimens are similar to *T. c. argeus* as illustrated in Braby (2000).

Cephrenes trichopepla (Lower)

C. trichopepla is now distributed widely in the Northern Territory and Queensland (Braby 2000). In recent years it has extended its range southwards along both the eastern and western coastline. The natural range of the species is, however, difficult to determine; it may originally have been restricted to the tropical coastal zone (Braby 2000). The distribution map in Braby (2000) shows that in northern Western Australia the species occurs at Broome, Kununurra, and an area just north of Derby. Grund and Hunt (2001a) record the species from Kalumburu and Mitchell Plateau. In March 2003 we found *C. trichopepla* at two additional Kimberley localities; Zebedee Spring (15° 59'S 128° 02'E), and near Apex Creek (17° 06'S. 125° 10'E.) on the Gibb River Road

PAPILIONIDAE

Graphium eurypylus nyctimus (Waterhouse and Lyell) .

In Western Australia *G. e. nyctimus* has been recorded from Koolan Island (L.E. Koch, Braby 2000), Sir Frederick Hills, Vansittart Bay, Cape Bougainville, Mitchell Plateau and South-West Osborne Island (Johnson 1993). We have a specimen from Tranquil Bay (13° 56'S. 127° 18'E.) 4 km south-west of Cape Rulhieres collected in February 2000. This species was observed laying eggs on *Diospyros maritima* Blume, (Ebenaceae). We also have sight records of *G. e. nyctimus* from Seaplane Bay (14° 06'S. 127° 32'E.), Koolama Bay (13° 56'S. 127° 17'E.), Glycosmis Bay (13° 53'S. 127° 46'E.) and Deception Bay (15° 36'S. 124° 25'E.) on the north Kimberley coast.

Papilio fuscus canopus Westwood

P. f. canopus occurs sporadically along the Kimberley coast as far west as Koolan Island (Koch and van Ingen 1969) and Broome (Common and Waterhouse 1981). We have a specimen from Rocky Cove, Vansittart Bay (14° 13'S. 126° 15'E.) collected in March 2004.

Cressida cressida cressida (Fabricius)

C. c. cressida has been recorded sporadically across the northern Kimberley east from Koolan Island (Koch and van Ingen 1969; Braby 2000). On 6th September 2005 The species was observed at Miners Pool on the Drysdale River (15° 04'S. 126° 23'E.) feeding at flowers of *Melaleuca argentea* W. Fitzg.

PIERIDAE

Catopsilia pyranthe crokera (W.S. Macleay)

In Western Australia the White Migrant *C. p. crokera* has previously been recorded from Learmonth (Williams *et al.* 1996), King Sound (Waterhouse and Lyell 1914) and Kununurra (Dunn and Dunn 1991). We recorded both light and dark forms at Mary River Pool on the Great Northern Highway (18° 43'S. 126° 52'E.) in March 2003.

Eurema laeta sana (Butler)

In Western Australia this species was originally recorded from Koolan Island in Yampi Sound (Koch and van Ingen 1969). More recently it has been recorded from Kalumburu (Grund and Hunt 2001a). We collected one specimen at the Russ River crossing on Gibb River Road (15° 57'S. 126° 50'E.), where it was flying with *Eurema herla* (W.S. Macleay). A further specimen was taken in May 2003 near Crusher rainforest patch, Mitchell Plateau (14° 52'S. 125° 50'E.) in open savannah woodland.

Cepora perimale scyllara (W.S. Macleay)

In Western Australia *C. p. scyllara* has previously been recorded as far west as Derby (Waterhouse and Lyell 1914, Braby 2000). We have specimens from Broome (17° 58'S. 122° 14'E.) collected in January 2000 and from south-east of Quondong Point (17° 37'S. 122° 11'E.) in June 2002.

NYMPHALIDAE

Ypthima arctous (Fabricius)

Y. arctous is widely distributed along the east coast of Australia and in the Northern Territory. Common and Waterhouse (1981) state that the species also occurs in northern Western Australia. Dunn and Dunn (1991) however, found no Western Australian material or specific records to support this claim, and Braby (2000) gives the Northern Territory as the Western limit of its range. Grund and Hunt (2001a) have confirmed that the species occurs in the Kimberley at Kalumburu. We also have three specimens from the Kimberley. In April 2003 two males were collected at Barnett River Gorge (16° 32'S. 126° 07'E.). They were flying close to the ground in dappled shade within closed riparian scrub. An additional female was collected at Airfield Swamp, Mitchell

Plateau, (14° 46'S. 125° 49'E.) in May 2003. This specimen was found in open *Melaleuca leucadendron* swamp forest. In the males from Barnett River Gorge, the subtornal eyespot on the hind wing is very reduced and in one specimen it is absent from the upper wing surface.

Hypocysta adiante antirius Butler

H. a. antirius occurs sporadically in northern Western Australia. It is known from as far west as Koolan Island in Yampi Sound (Koch and van Ingen 1969; McKenzie *et al.* 1995) and as far east as Kununurra. Braby (2000) suggests the species is probably more widespread than indicated by present records. In March and April 2003 we collected specimens at the following localities between Kununurra and Derby: Middle Spring Creek, near Kununurra (15° 38'S. 123° 41'E.), Zebedee Spring (15° 59'S. 128° 02'E) , Amalia Gorge (15° 58'S. 128° 02'E.), Russ River crossing, on Gibb River Road (15° 57'S. 126° 50'E.), Barnett River Gorge (16° 32'S. 126° 07'E.), Galvan's Gorge (16° 48'S. 125° 50'E.), Mornington Road (17° 00'S. 125° 41'E.), Windjana Gorge (17° 25'S. 124° 56'E) and May River Crossing (17° 22'S. 124° 02'E.), 40 km east of Derby. Our most southerly record is from Palm Springs, (18° 25'S. 127° 51'E.), 30 km south-east of Halls Creek, where specimens were collected in riparian woodland along the Black Elvire River. This locality is 310 km south of Kununurra. We also have specimens from Bertram Cove (14° 02'S. 127° 27'E.) south of Cape Bernier, and Tranquil Bay (13° 56'S. 127° 18'E.) 4 km south-west of Cape Rulhieres, collected in February 2000.

Polyura sempronius sempronius (Fabricius)

P. s. sempronius is found in tropical eastern, northern and north-western Australia (Braby 2000). In Western Australia it occurs from Yampi Sound (Common and Waterhouse 1981), Port Nelson (Smiles 1982) and Kalumburu (Grund and Hunt 2001a). There is a specimen in the CALM Lepidoptera Research Collection taken by Tony Start at the Ord River Diversion Dam, near Kununurra on 24 May 1999. Butterflies are commonly seen in suburban gardens in Kununurra (15° 47'S. 128° 43'E.) where they visit the flowers of exotic *Ixora* sp. (Tony Start, Department of C.A.L.M., pers. comm.). The Kununurra site is intermediate between Kalumburu and localities in the Northern Territory.

Libythea geoffroy genia Waterhouse

In northern Western Australia *L. g. genia* has been recorded from a number of localities between Cape Leveque and Wyndham (Common and Waterhouse 1981; Braby 2000). In April 2003 we collected specimens further west near James Price Point, 50 km north of Broome (17° 31'S. 122° 09'E.). The species was also recorded at Napier Range Pass on Gibb River Road (17° 20'S. 124° 49'E.) where males were observed imbibing moisture from roadside damp areas. Butterflies were also abundant at Windjana Gorge (17° 25'S. 124° 58'E.), where large numbers of females congregated on the food plant *Celtis philippensis* Blanco, within closed riparian scrub-woodland. We also have specimens from Tranquil Bay (13° 56'S. 127° 18'E.) 4 km south-west of Cape Rulhieres, collected in February 2000.

Tirumala hamata (W.S. Macleay)

T. hamata has a wide distribution in the oriental region. In Australia it occurs along the east coast of Queensland and New South Wales, and the north-west part of the Northern Territory (Braby 2000). In Western Australia it has previously been recorded from 22 km north of Kununurra (Koch 1957). We have a sight record of this species from Naturaliste Island, Hunter River (15° 02'S. 125° 25'E.) in May 2000.

Danaus genutia alexis (Waterhouse and Lyell)

In Western Australia this species has previously been recorded from Kununurra and Derby (Braby 2000). We have an intermediate locality record from 5 km south-west of Buckle Head (14° 31'S. 127° 51'E.) about 50 km north-west of Cambridge Gulf.

Danaus affinis (Fabricius)

D. affinis has a wide but disjunct distribution in the oriental and Australian regions, and in Western Australia is known from Derby and the area round Kununurra (Braby 2000), and Kalumburu (Grund and Hunt 2001a). In April 2003 we recorded *D. affinis* at Cape Boileau (17° 40'S. 122° 13'E.) 30 km north of Broome and near the eastern end of Gibb River Road (15° 52'S. 128° 15'E.). Specimens were also collected at Roe River rainforest patch in Prince Regent Nature Reserve (15° 11'S. 125° 28'E.) in May 2003, at Broome (17° 58'S. 122° 14'E) in January 2000, and from 5 km south-west of Buckle Head (14° 31'S. 127° 51'E.) in February 2000.

Euploea darchia W. S. Macleay

In Western Australia *E. darchia* is known only from the Prince Regent River (Common and Waterhouse 1981) and Kalumburu (Grund and Hunt 2001a). In May 2003, specimens were obtained from two additional north-west Kimberley localities; Roe River swamp rainforest patch, located in the estuary of the Roe River (15° 11'S. 125° 28'E.), and at Crusher rainforest patch (14° 52'S. 125° 50'E.), Mitchell Plateau.

LYCAENIDAE

Arhopala centaurus asopus Waterhouse and Lyell

Occurs sporadically across the Kimberley region east from Koolan Island (Braby 2000). There are relatively few recorded localities. We found the species at Tranquil Bay (13° 56'S. 127° 18'E.) in February 2000, Rocky Cove, Vansittart Bay (14° 13'S. 126° 15'E) in March 2004. In April 2003 butterflies were encountered along the Gibb River Road at Galvans Gorge (16° 48'S. 125° 51'E.) and Mount Bell in the King Leopold Range (17° 10'S. 125° 18'E). Specimens were also taken at Stumpy Creek crossing on Mornington Road (17° 07'S. 125° 51'E.) and at Windjana Gorge (17° 25'S. 124° 58'E.).

Ogyris amaryllis meridionalis (Bethune-Baker)

In the western Kimberley *O. a. meridionalis* is known from Edgar Range and Broome (Braby 2000). We have a specimen from Moorack Bore (17° 31'S. 122° 09'E.) near James Price Point, 50 km north of Broome, collected in June 2002. Further specimens were collected on Mornington Road (17° 07'S. 125° 51'E.) in April 2003 flying around flowering mistletoes.

Ogyris zosine (Hewitson)

According to the distribution map in Braby (2000) *O. zosine* is known from a few scattered localities across northern Western Australia. Grund and Hunt (2001a) encountered the butterfly at Oscar Range near Fitzroy, and Ellenbrae on the Gibb River Road. We found the species breeding near James Price Point, 50 km north of Broome (17° 29'S. 122° 09'E.). The host ant at this site was *Camponotus oetkeri* Forel. Numbers of *O. zosine* larvae and pupae were found in a *C. oetkeri* nest at the base of a mistletoe-bearing low tree. This ant is found throughout mainland Australia, and is fairly common, particularly in northern parts of Western Australia (Brian Heterick, *pers. comm.*).

Hypolycaena phorbas ingura Tindale

In Western Australia *H. p. ingura* is known from Mitchell Plateau and Yampi Sound (Braby 2000), and more recently from Kalumburu (Grund and Hunt 2001a). We have a male from Tranquil Bay (13° 56'S. 127° 18'E.), 4 km south-west of Cape Rulhieres, collected in February 2000.

Anthene lycaenoides godeffroyi (Semper)

In Western Australia *A. l.. godeffroyi* is known from South West Osborne Island and the Mitchell Plateau (Johnson 1993) and Grund and Hunt (2001a) reported seeing the species at Kalumburu. We have a specimen from Vansittart Bay (14° 13'S. 126° 15'E.) collected in March 2004.

Candalides erinus (Fabricius)

Distribution maps in Braby (2000) and Dunn and Dunn (1991) indicate that *C. erinus* is known from the West Kimberley around Broome and Cape Leveque, and in the east Kimberley from around Kununurra and Wyndham. It is also recorded from Kalumburu (Grund and Hunt 2001a). We have several intermediate locality records; Great Northern Highway, 130 km south-east of Derby (17° 54'S. 124° 40'E.), Great Northern Highway, 160 km west-south-west of Halls Creek (18° 45'S. 126° 16'E.), Gibb River Road, 24 km west of Pentecost River crossing (15° 45'S. 127° 42'E.), Barnett River Gorge (16° 32'S. 126° 07'E.) and 5 km south west of Buckle Head (14° 31'S. 127° 51'E.). At the first three sites butterflies were active around a known food plant *Cassytha filiformis* L.

Nacaduba biocellata (C. Felder and R. Felder)

Braby (2000) suggests that *N. biocellata* occurs throughout most, and probably all, of mainland Australia, although it seems to be rarer in the tropics. Known locations in the Kimberley include Mt Agnes in the Prince Regent River district (C.W. McCubbin)(Braby 2000), Kalumburu (Grund and Hunt 2001) and Cable Beach, near Broome (Johnson and Valentine 2004). In 2003 we recorded the species at 2 locations on the Great Northern Highway; 160 km west-south-west of Halls Creek (18° 45'S. 126° 16'E.) and at Landrigan Creek crossing (18° 46'S. 126° 19'E.).

Catopyrops florinda estrella (Waterhouse and Lyell)

In Western Australia *C. f. estrella* occurs sporadically in the Kimberley from north of the Edgar Range to Wyndham (Braby 2000). It has recently been recorded from Cable Beach near Broome (Johnson and Valentine 2004), near Amalia Gorge on the road into El Questro station (Cliff Meyer, *pers. comm.*) and Kalumburu, Berrangi Bridge crossing near Halls Creek and other unspecified Kimberley locations (Grund and Hunt 2001a). We recorded the species at Galvans Gorge (16° 48'S. 125° 51'E.) and Windjana Gorge (17° 25'S. 124° 58'E.) in April 2003.

Theclinesthes sulpitius (Miskin)

The Samphire Blue *T. sulpitius* has a coastal distribution from eastern Victoria north to Cape Cleveland near Townsville, from Cairns to Cooktown, and at Weipa and Iron Range on Cape York Peninsula (Braby 2000). The species has also been recorded near Darwin in the Northern Territory (Meyer and Wilson 1995), while in Western Australia it is known only from Wyndham (C.G. Miller) (Braby 2000). We have recorded this lycaenid 600 km further west in the intertidal samphire flats on Roebuck Plains (17° 58'S. 122° 22'E.) often feeding at flowers of *Sesuvium portulacastrum*. Specimens have also been collected at Crab Creek (18° 00'S. 122° 24'E.) and Junction Pool (17° 54'S. 122° 17'E.), a seasonal wetland 9 km north-north-east of Broome.

Zizeeria karsandra (Moore)

The distribution maps in Braby (2000) and Dunn and Dunn (1991) indicate that in Western Australia *Z. karsandra* occurs from south of Derby to Fitzroy Crossing, the Mitchell Plateau and at Kununurra. Grund and Hunt (2001a) recorded the species at Kalumburu, Mitchell Plateau and Berrangi Bridge crossing near Halls Creek. We have records from Kimberley Downs (17° 26'S. 124° 25'E.) in November 1999, and Broome (17° 58'S. 122° 14'E.) in January 2000. In March and April 2003 we found the species at the Prison Boab tree, 8 km south-east of Derby (17° 22'S. 123° 41'E.), Mary River Pool on the Great Northern Highway (18° 43'S. 126° 52'E.) and at Windjana Gorge (17° 25'S. 124° 58'E.). There are specimens in the C.A.L.M. Lepidoptera collection from

Middle Lacepede Island (16° 51'S. 122° 08'E.), collected 28 February 2002, and East Island on Ashmore Reef (12° 15' 37"S. 123° 05' 37"E.) collected 25 January 2002.

Famegana alsulus (Herrich-Schäffer).

In the western Kimberley *F. alsulus* is known from about 100 km east of Broome, and in the eastern Kimberley from Wyndham and Kununurra (Dunn and Dunn 1991) and (Braby 2000). It has also been reported from Kalumburu and other unspecified Kimberley localities (Grund and Hunt 2001a). We found the species to be widespread and common, and specimens were collected or observed at the following locations: Great Northern Highway, 130 km south-east of Derby (17° 54'S. 124° 40'E.), Old Halls Creek, (18° 16'S. 127° 48'E.), 10 km south of Warmun (Turkey Creek) (17° 08'S. 128° 11'E.), Gibb River Road, 15 km north-east of Mt. Barnett Roadhouse (16° 08'S. 126° 01'E), Mornington Road (17° 00'S. 125°·41'E.), Windjana Gorge (17° 25'S. 124° 58'E.) and James Price Point, 50 km north of Broome (17° 29"S. 122° 09'E.). The species was also found at Crusher rainforest patch (14° 52'S. 125° 50'E.) Mitchell Plateau, in May 2003.

Freyeria putli (Kollar)

F. putli occurs sporadically in the Kimberley region (Braby 2000). Grund and Hunt (2001a) found it at Kalumburu, Mitchell Plateau and other unspecified Kimberley locations. We collected the species in shaded riparian scrub at Barnett River Gorge (16° 32'S. 126° 07'E.).

Acknowledgements

We thank Sally Black, Department of C.A.L.M., Woodvale, and Department of C.A.L.M. National Park Rangers Alex Bowlay, John Hayward and Vernon Wright who collected butterfly specimens at Mitchell Plateau in May 2003. Michael Braby and Cliff Meyer confirmed the identification of a number of butterfly specimens. Plant specimens listed in this paper were identified by Greg Keighery, Department of C.A.L.M. Woodvale. The host ant for *Ogyris zosine* was identified by Brian Heterick, Curtin University, Perth.

References

BRABY, M.F. 2000. *Butterflies of Australia: their identification, biology and distribution.* CSIRO Publishing, Collingwood; xx + 976 pp.

BRABY, M.F. 2004. *The complete Field Guide to Butterflies of Australia.* CSIRO Publishing, Collingwood; x + 340pp.

COMMON, I.F.B. and WATERHOUSE, D.F. 1981. *Butterflies of Australia.* Revised edition. xiv + 682 pp.47pls. Angus and Robertson : Sydney.

DUNN, K.L. and DUNN, L.E. 1991 *Review of Australian Butterflies: distribution, life history and taxonomy. Parts 1-4.* 660 pp. Published privately : Melbourne.

GRUND, R. and HUNT, L. 2001. Some butterfly observations for the Kimberley and Tanami regions, Western Australia. *Victorian Entomologist.* **31:** 19-23.

GRUND, R. and HUNT, L. 2001. Some new butterfly observations for the Far North and Pastoral Regions of South Australia. *Victorian Entomologist.* **31:** 75-82.

JOHNSON, S.J. 1993. Butterfly records of interest from northern Australia. *Australian Entomologist* **20:** 75-76.

JOHNSON, S.J. and VALENTINE, P.S. 2004. Butterfly field notes from northwest Australia including new distributions of several species. *Victorian Entomologist* **34**:58-59.

KOCH, L.E. 1957. East Kimberley butterflies. *Western Australian Naturalist* **6:** 83-84.

KOCH, L.E. and VAN INGEN, F.C. 1969. The butterflies of Koolan Island, Western Australia. *Western Australian Naturalist* **11:** 98.

McKENZIE, N.L., FONTANINI, L., LINDUS, N.V. and WILLIAMS, M.R., 1995. Biological inventory of Koolan Island, Western Australia. 2.Zoololical notes. *Records of the Western Australian Museum.* **17:** 249-266.

MEYER, C.E. and WILSON, D.N., 1995. A new distribution record for *Theclinesthes sulpitius* (Miskin) (Lepidoptera: Lycaenidae) in the Northern Territory and notes on the life history. *Australian Entomologist* **22:** 63.

SMILES, R.L., 1982. The taxonomy and phylogeny of the genus *Polyura* Billberg (Lepidoptera: Nymphalidae). Bulletin of the British Museum of Natural History (Entomology) **44:** 115-237.

SMITHERS, C.N. and BUTLER, W.H., 1983. The butterflies (Lepidoptera: Hesperioidea and Papilionoidea) of Barrow and nearby islands, Western Australia. *Western Australian Naturalist* **15:** 141-145.

WATERHOUSE, G.A. and LYELL, G., 1914. *The butterflies of Australia. A monograph of the Australian Rhopalocera.* vi+239 pp., 43 pls Angus and Robertson, Sydney.

WILLIAMS, A.A.E. and TOMLINSON, 1994. Further distributional records and natural history notes on butterflies from Western Australia. *Victorian Entomologist* **24:** 122-124.

WILLIAMS, A.A.E., WILLIAMS, M.R., Tomlinson, A.G. and LUNDSTROM, T.D. 1996. Records of butterflies from the central desert region and semi-arid areas of Western Australia. *Victorian Entomologist* **26**:29-34.

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The Australian Entomological Society publishes the *Australian Journal of Entomology* quarterly. The Entomological Society of Victoria is an affiliated society and will, in future, publish the contents of the Journal for the wider interest of its members.

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Sarina Pearce & Myron P Zalucki: Does the cutting of lucerne (*Medicago sativa*) encourage the movement of arthropod pests and predators into the adjacent crop?

Jason A L Jeffery, Brian H Kay & Peter A Ryan: Development time and survival of *Verrallina funerea* (Theobald) (Diptera: Culicidae) immatures and other brackish water mosquito species in southeast Queensland, Australia.

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Olga Schmidt: Revision of Scotocyma Turner (Lepidoptera: Geometridae: Larentiinae).

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Marilyn Y Steiner & Stephen Goodwin: Management of western flower thrips, *Frankliniella occidentalis* (Pergande) (Thysanoptera: Thripidae), in hydroponic strawberry crops: using yellow sticky traps to determine action thresholds.

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Grant A Herron & Tanya M James: Monitoring insecticide resistance in Australian *Frankliniella occidentalis* Pergande (Thysanoptera: Thripidae) detects fipronil and spinosad resistance.

Graham D Bonnett & Michael L Hewitt: Numbers of pink sugarcane mealy bug. *Saccharicoccus sacchari* (Cockerell) (Hemiptera: Pseudococcidae), differ within seasons and among regions and stages of the sugarcane crop cycle.

Andrew L Ward: Development of a treatment threshold for sucking insects in determinate Bollgard II transgenic cotton grown in winter production areas.

Simon I Duffield & Martin L Dillon: The emergence and control of overwintering *Helicoverpa armigera* pupaein southern New South Wales.

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John A Goolsby, Ryan Zonneveld, Jeffrey R Makinson & Robert W Pemberton: Host-range and cold temperature tolerance of *Floracarus perrepae* Knihinicki & Boczek (Acari: Eriophyidae). a potential biological-control agent of *Lygodium microphyllum* (Pteridophyta: Lygodiaceae).

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Compiled by D. Dobrosak

NOTICE OF ANNUAL GENERAL MEETING

Members of the Society are advised that the Annual General Meeting will be held at the 'Discovery Centre', lower ground floor, Museum Victoria, Carlton Gardens, commencing at 8 p.m. on Friday 21 April 2006.

AGENDA

1. Approval of minutes of AGM held on 15 April 2005 [*Vic. Ent.* 35(3): 41-42]
2. Treasurer's Report
3. Editor's Report
4. Reports from Committees
5. Election of Council for 2006 - 2007
6 Expression of interest for joining Committees
7. General Business

Nominations for positions on the Council, in writing and signed by the proposer, seconder and nominee, must be in the hands of the President seven days prior to the Annual General Meeting. Nomination forms and Proxy forms may be obtained from the President. Nominations may also be accepted at the Annual General Meeting.

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The Society welcomes contributions of articles, papers or notes pertaining to any aspect of entomology for publication in this Bulletin. Contributions are not restricted to members but are invited from all who have an interest. Material submitted should be responsible and original. The Editor reserves the right to have articles refereed. Statements and opinions expressed are the responsibility of the respective authors and do not necessarily reflect the policies of the Society.

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DIARY OF COMING EVENTS

Friday 17 February 2006
Dr. Ross Field will present a talk on
'The Biology of Some Unique Butterflies from Eastern Victoria'

Friday 21 April 2006
Annual General Meeting

Scientific names contained in this document are *not* intended for permanent scientific record, and are not published for the purposes of nomenclature within the meaning of the *International Code of Zoological Nomenclature*, Article 8(b). Contributions may be refereed, and authors alone are responsible for the views expressed.

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